REMARKS

Reconsideration of this application as amended is respectfully requested.

In the Office Action dated January 10, 2006, claims 1-35 were pending and rejected. In this response, claims 1, 9, 10, 15, 19, 22, 27 and 33-35 have been amended. No new matter has been added. No claims are canceled and no claims are added. Support for the amendments can be found throughout the specification as filed.

Amendments

Rejections under 35 U.S.C. § 102(e)

Claims **1-5, 8, 10-13, 15-17, 22-24, 27-30 and 33-35**

Claims 1-5, 8, 10-13, 15-17, 22-24, 27-30, and 33-35 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,169,986 of Bowman et al. (hereinafter "Bowman"). However, Applicant respectfully submits that Applicant's invention as claimed in claims 1-5, 8, 10-13, 15-17, 22-24, 27-30 and 33-35, as amended, is not anticipated by the reference.

Specifically, for example, independent claim 1, as amended, recites:

> "searching a network of concept terms for terms related to the search term, wherein each related term and the search term appear together in at least one sentence in a web page;"

(Emphasis added)

Independent claim 1 includes limitations that a search term together with a related term appear in at least one sentence in a web page. It is respectfully submitted that the above limitations are absent from Bowman.

Rather, Bowman teaches a method for generating related query terms using a history of queries submitted to a search engine by a community of users. Specifically, Bowman

describes a process that identifies from daily query log file all multiple-term queries and correlates a query term to related terms that were used with the query term in a particular query. (Bowman, col. 9, lines 38-56). Nowhere in Bowman discloses a query term and a related term appear in the same sentence in a web page.

In order to anticipate a claim, each and every limitation of the claim must be taught by the cited reference. It is respectfully submitted that Bowman fails to disclose the limitations set forth above. Therefore, it is respectfully submitted that independent claim 1, as amended, is not anticipated by Bowman.

Similarly, independent claims 10, 15, 22, and 27 include limitations similar to those recited in claim 1, as amended. Thus, for the reasons similar to those discussed above, it is respectfully submitted that independent claims 10, 15, 22, and 27 are not anticipated by Bowman.

Given that claims 2-5, 8, 33-35 depend from claim 1, clams 12-13 depend from claim 10, claims 16-17 depend from claim 15 and claims 28-30 depend from claim 27, it is respectfully submitted that claims 2-5, 8, 12-13, 16-17, 28-30 and 33-35 are not anticipated by Bowman.

In addition, regarding claim 35, claim 35 recites a specific formula for calculating a weight factor used in a search. It is respectfully submitted that these limitations are also absent from the cited references.

Office Action states:

> "the final values of the correlation scores taken over M days are calculated and stored within the query correlation table (col. 11,lines 31-55, Bowman). (Office Action, page 7)

Applicant respectfully disagrees.

Claim 35 includes the limitation that the mutual information between a first term x and a second term y is determined by $MI(x,y) = f(x,y)/f(x) + f(y) -f(x,y)$, wherein $f(x,y)$ corresponds to an occurrence frequency of both x and y, $f(x)$ corresponds to occurrence frequency of x, and $f(y)$ corresponds to occurrence frequency of y.

In contrast, Bowman discloses maintaining a correlation score for each related term based on the number of times the related term occurred in combination with a key term in a particular query (Bowman, col. 10, lines 48-53). Each time the key term and a related term are used together in a query, the related term's correlation score is incremented (Bowman, col. 11, lines 3-5). The final values of correlation scores taken over M days are stored within the query correlation table (Bowman, col. 10, lines 48-55). Bowman also mentions a given query submission can be counted twice (such as by incrementing the correlation score by two) if the user subsequently selected an item from the query result page, and counted a third time if the user then purchased the item or added the item to the shopping basket (Bowman, col. 11, lines 35-52).

Specifically, the section of Bowman cited by the Office Action states:

"In some embodiments, certain key terms may be excluded from the mapping if they are frequently used, and yet do not further the search refinement process. For example, common articles such as "THE," "A," "TO," and "OF" may be excluded from the mapping. While only three partial entries are depicted in FIG. 5A, many thousands of entries would be stored in a typical daily results file. In the preferred implementation, the mapping for a daily query log file is stored in a B-tree data structure. In other embodiments, a linked list, database, or other type of data structure can be used in place of the B-tree.

In addition, the amount by which the correlation scores are incremented may be increased or decreased depending on different kinds of selection actions performed by the users on items identified in query results. These may include whether the user displayed additional information about an item, how much time the user spent viewing the additional information about the item, how many hyperlinks the user followed within the additional information about the item, whether the user added the item to his or her shopping basket, and whether the user ultimately purchased the item. For example, a given query submission can be counted twice (such as by incrementing the correlation score by two) if the user subsequently selected an item from the query result page, and counted a third time if the user then purchased the item or added the item to the shopping basket. These and other types of post-search activities reflect the usefulness of the query result, and can be extracted from the query log 135 using well-known tracing methods.

Step 3: Create Daily Results File

Once the mapping is complete, that is, all entries in the daily query log file have been parsed, the generation process 136 creates a daily results file (step 430) to store the B-tree. In other embodiments, the daily results file may be generated at an earlier stage of the process, and may be incrementally updated as the parsing occurs."

(Bowman, col. 11, lines 24-58)

Thus, there is neither disclosure nor suggestion within the cited section of Bowman of the limitations set forth in claim 35. Particularly, nowhere in Bowman discloses or suggests occurrence frequency of a single term and a mutual information determined by $f(x,y)/f(x) + f(y)-f(x,y)$.

Again, in order to anticipate a claim, each and every limitations of the claim must be taught by the cited reference. It is respectfully submitted that Bowman fails to disclose each and every limitations of claim 35. Therefore, in addition to those with respect to the respective independent claim, for the reasons set forth above, it is respectfully submitted that claim 35 is independently not anticipated by Bowman.

Rejections under 35 U.S.C. § 103(a)
Claims 6-7, 9, 19-21, 25, 26 and 31-32

Claims 6, 7, 9, 19-21, 25, 26 and 31-32 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Bowman in view of U.S. Patent No. 5,933,822 of Braden-Harder et al. (hereinafter "Braden"). However, Applicant respectfully submits that Applicant's invention as claimed in claims 6, 7, 9, 19-21, 25, 26 and 31-32, as amended, is patentable over the cited references.

Independent claim 19, as amended, includes limitations similar to those recited in claim 1, as amended. Claims 6-7, 9 and 31-32 depend from independent claim 1, as amended, claims 20-21 depend from independent claim 19, as amended, claims 25 and 26 depend from independent claim 22, as amended. Therefore, claims 6-7, 9, 19-21, 25-26 and 31-32 include, directly or indirectly the limitations set forth above. It is respectfully submitted that Bowman, for the reasons similar to those stated above, and Braden, individually or in combination, fail to disclose or suggest the limitations set forth above.

Braden teaches a method involving production, comparison and weighting of matching logical forms respectively associated with a search query and each of the retrieved documents

(Braden, col. 5, lines 8-11). Each logical form for a sentence encodes semantic relationships between words in a linguistic phrase in that sentence (Braden, col. 7, lines 50-53). However, Braden neither discloses nor suggests a search term together with a related term appearing in at least one sentence in a web page.

Moreover, Bowman states that related query terms generated using contents are frequently of little or no value to the search refinement process (Bowman, col. 1 line 60 – col. 2, line 37). Hence, Bowman teaches away from a related term and the search term appearing together in at least one sentence in a web page.

Further, Bowman discloses a technique for a search engine to suggest related terms to the user to allow the user to <u>refine a search</u>. Braden, on the other hand, attempts to utilize natural language processing to <u>process results</u> retrieved by an information retrieval engine in order to improve overall precision. Clearly, Braden and Bowman address completely different issues. There is neither suggestion nor motivation to combine the teachings of Braden and Bowman.

As such, not only do Bowman and Braden not disclose, individually or in combination, all limitations of claims 1, 19 and 22, as amended, but the references, considered as a whole, do not suggest the desirability and thus the obviousness of making the combination. Even if they were combined, such a combination still lacks the limitations set forth above.

Therefore, for the above stated reasons, it is respectfully submitted that claims 6-7, 9, 19-21, 25-26, and 31-32 are patentable over the cited references. Withdrawal of the rejections is respectfully requested.

Claims **14 and 18**

Claims 14 and 18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Bowman in view of U.S. Patent No. 6,460,029 of Fries et al. (hereinafter "Fries"). Applicant respectfully submits that Applicant's invention as claimed in claims 14 and 18, as amended, is patentable over the cited references.

Claim 14 depends from claim 10 and claim 18 depends from claim 15. Claims 10 and 15, as amended, both include the limitation that a search term together with a related term appear in at least one sentence in a web page. It is respectfully submitted that Bowman, for the reasons similar to those discussed above, and Fries fail to disclose or suggest the above noted limitations.

Fries discloses a method of receiving a search query from a user and storing the search query to be redisplayed to the user later. Fries also teaches retrieving a text search query from a user and generating a logical search query (Fries, col. 2, lines 3-15). However, nowhere in Fries discloses or suggests a search term together with a related term appearing in at least one sentence in a web page.

Moreover, for reasons stated above regarding claim 6, Bowman teaches away from claims 14 and 18. As such, not only Bowman and Fries do not disclose, individually or in combination, all limitations of claims 14 and 18, as amended, but the references, considered as a whole, do not suggest the desirability and thus the obviousness of making the combination. Even if they were combined, such a combination still lacks the limitations set forth above.

Therefore, it is respectfully submitted that claims 14 and 18 are patentable over Bowman in view of Fries.
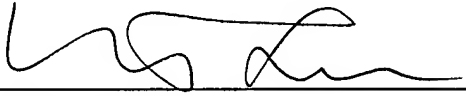
CONCLUSION

In view of the foregoing, Applicant respectfully submits the present application is now in condition for allowance. If the Examiner believes a telephone conference would expedite or assist in the allowance of the present application, the Examiner is invited to call the undersigned attorney at (408) 720-8300.

Please charge Deposit Account No. 02-2666 for any shortage of fees in connection with this response.

Respectfully submitted,

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